

PATENT ABSTRACTS OF JAPAN

(11)Publication number : 10-259459

(43)Date of publication of application : 29.09.1998

(51)Int.Cl.

C22C 38/00
B22F 1/00
B22F 9/04
C22C 33/02
H01F 1/053
H01F 1/06

(21)Application number : 09-269928

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(22)Date of filing : 02.10.1997

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(30)Priority

Priority number : 09 4226 Priority date : 14.01.1997 Priority country : JP

(54) RAW MATERIAL ALLOY FOR PRODUCING RARE EARTH MAGNET POWDER AND PRODUCTION OF RARE EARTH MAGNET POWDER USING THIS RAW MATERIAL ALLOY

(57)Abstract:

PROBLEM TO BE SOLVED: To obtain a raw material alloy producing rare earth magnet powder having excellent magnetic properties by composing the intergranular precipitates of a raw material alloy in which the componental compsn. and structure are specified of intermetallic compound phases and boride phases. SOLUTION: A raw material alloy for producing rare earth magnet powder having a compsn. contg., by at.%, 10.0 to 16.0% rare earth element including Y (R), 5.0 to 30.0% Co or Ni (T), 4.0 to 10.0% B, one or more kinds among Zr, Hf, Ti and Ni (M1) by 0.001 to 3.0% one or more kinds among Ga, Al and Sn (M2) by 0.001 to 5.0%, and the balance Fe with inevitable impurities and consisting of the main phases composed of R₂(Fe, T)₁₄B type intermetallic compound phases in which M1 and M2 are partially allowed to enter into solid solutions and intergranular precipitates precipitated into the boundaries of the crystal grains thereof is prepd. This intergranular precipitates are composed of Ra(Fe, T)₁₀₀-a intermetallic compound phases, RbT₁₀₀-b intermetallic compound phases, M1cB₁₀₀-c boride phases, RdTeM₂100-(d+e) intermetallic compound phases and Rf(Fe, T)gB₁₀₀-(f+g) intermetallic compound phases.

LEGAL STATUS

[Date of request for examination]

[Date of sending the examiner's decision of rejection]

[Kind of final disposal of application other than the examiner's decision of rejection or application converted registration]

[Date of final disposal for application]

[Patent number]

[Date of registration]

[Number of appeal against examiner's decision of rejection]

[Date of requesting appeal against examiner's decision of rejection]

[Date of extinction of right]

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